

UNITED STATES PATENT OFFICE.

GEORGE HAYDN, OF BALTIMORE, MARYLAND, ASSIGNOR OF TWO-THIRDS
TO BENJAMIN B. FRIEDENWALD AND JOSEPH FRIEDENWALD, BOTH OF
SAME PLACE.

VALVE FOR WATER-CLOSETS, &c.

SPECIFICATION forming part of Letters Patent No. 318,899, dated May 26, 1885.

Application filed October 11, 1884. (No model.)

To all whom it may concern:

Be it known that I, GEORGE HAYDN, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Valves for Water-Closets, Basins, &c., of which the following is a specification, reference being had to the accompanying drawing.

My invention relates to improvements in valves for water-closets, basins, &c.; and it consists of a valve provided with different diameters, piston-heads, ports, valves, and means whereby the same may be operated automatically, as shown and illustrated in the accompanying drawing, in which the figure is a sectional view of the device.

The letter A designates the casing, having different diameters *a* and *b*, ingress-port *e*, egress-port *d*, and controlling-valve *e*. The valve-stem *f* is provided with different diameter piston-heads, the larger one, *g*, being at the end opposite the valve-seat *h*, and the smaller one, *g'*, interposed between the same, with a central port, *i*, which always communicates with the supply-pipe *k* and the chamber *l*.

The controlling-valve *e*, as shown, is arranged to be operated either automatically or at will, and is provided with a stem, *e'*, having an outer support, *m*, a press-button, *n*, and a spring, *o*, by which the valve is held shut. In case it is desired to operate the device automatically the float-ball *p* is attached to the pivoted bell-crank *r*, the short end *r'* of which comes in contact with the projections *s* and *s'* on the stem *e'*, the ball being actuated by water in a tank in the ordinary manner.

From the port of the controlling-valve *e* is a pipe, *n'*, which conveys the water therefrom to the pipe *d'*, and the port *s'* provides an egress for any water that may get between the piston-heads.

To the port *i* is attached a screen, 2, by which any sediment or small particles of matter are prevented from getting therein and clogging the same; and, as it is convex, the water as it passes from the ingress-port *e* to the egress-port *d* removes any particles that may be deposited thereon.

The operation is as follows: Open the valve *e* by moving the stem *e'* inward, which releases the water confined in the chamber *l*, relieving the pressure on the piston-head *g*, thereby permitting the pressure on the valve *t* and head *g'* to move the same forward, thus opening the communication with the egress-port *d* and pipe *k*, the pistons and valve remaining in this position as long as the valve *e* is open; but on closing the same the water which passes through the port *i* will be confined in the chamber *l*, which forces the piston back, as the diameter of *g* is greater than *g'*, thereby exposing more surface to the pressure, and which moves the same and holds the valve *t* firmly to its place, as the pressure is always maintained in the chamber *l* by the port *i* communicating directly with the supply-pipe *k*, thereby cutting off the water until relieved by the controlling-valve *e*, as above stated.

My device is adapted to a variety of purposes, as it can be regulated to remain open as long as desired after the valve *e* is closed by increasing or decreasing the port *i*, and, as cutting off the water is gradual, it effectually prevents any "hammering" of the pipes.

Having fully described my invention, what I claim, and wish to secure by United States Letters Patent, is—

In a cut-off valve, the combination of the casing A, provided with different diameter chambers, the piston-heads *g* and *g'*, the central port, *i*, the ingress-port *e*, the egress-port *d*, and the oval screen 2, arranged over the port *i* and in a position to the ports *e* and *d* that any sediment which may accumulate thereon, and which is thereby prevented from entering the port *i*, is removed by the action of the water as it passes from the port *e* to the port *d*, thus cleansing the same and preventing it from becoming clogged up, as herein specified.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE HAYDN.

Witnesses:

WM. B. NELSON,
BENJ. B. FRIEDENWALD.

(No Model.)

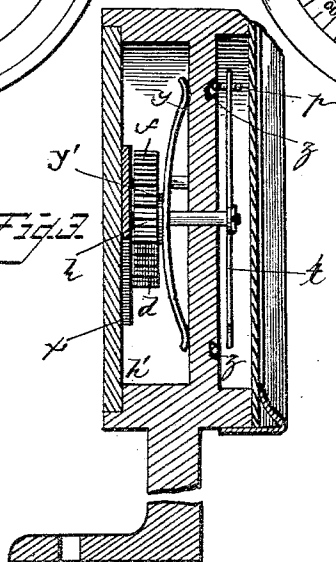
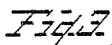
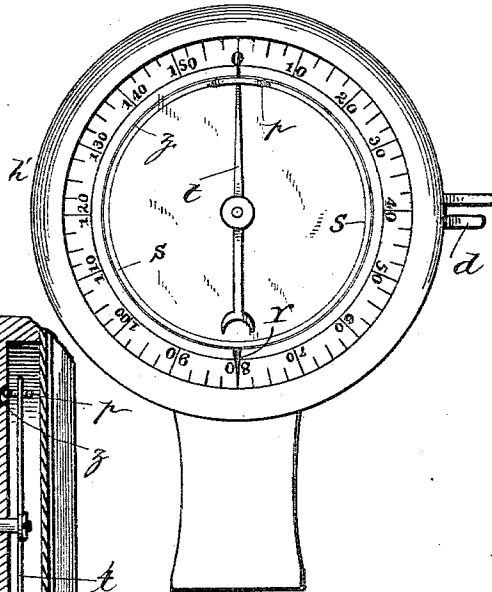
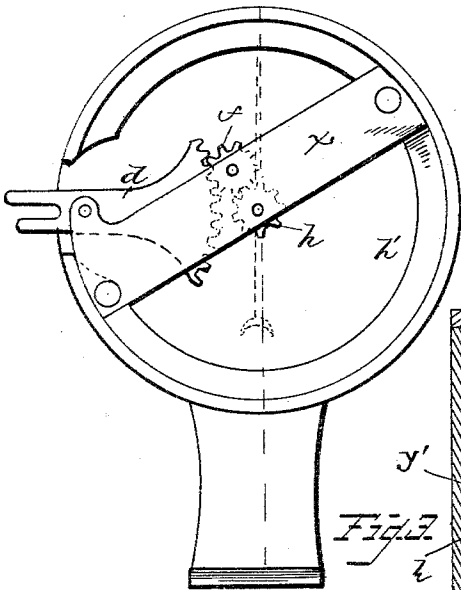
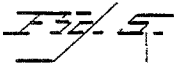
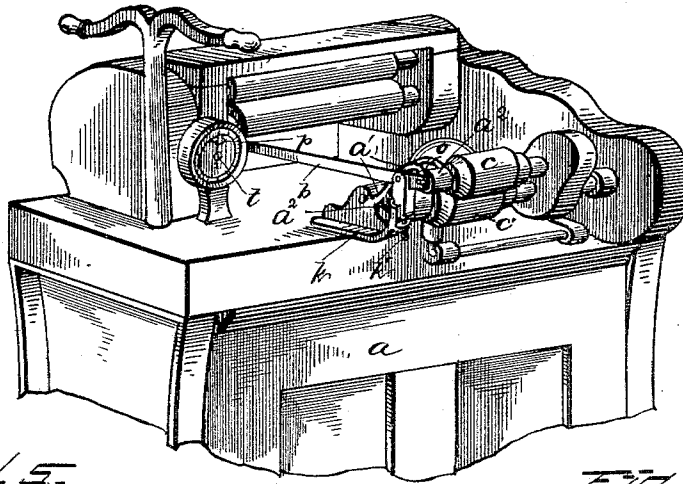
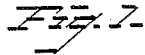
2 Sheets—Sheet 1.

W. HINCHLIFFE.

RAILWAY HEAD, DRAWING MACHINE, &c.

No. 318,900.

Patented May 26, 1885.



WITNESSES

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